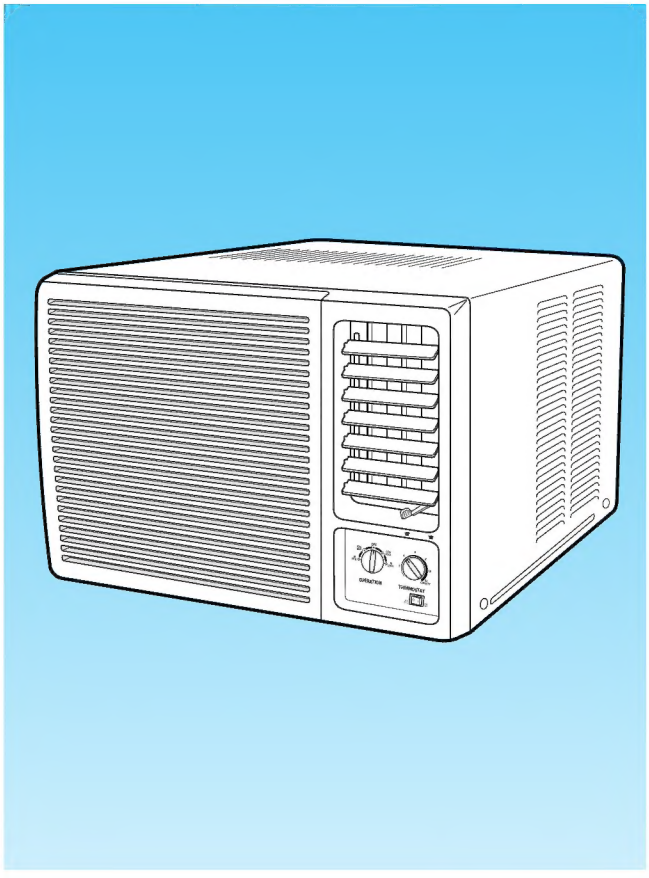
SAMSUNG

ROOM AIR CONDITIONER

AW07A0SE/AW07A1SE
AW09A0SE/AW09A1SE

SERVICE Manual

AIR CONDITIONER



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1. Precautions

1. Warning: Prior to repair, disconnect the power cord from the circuit breaker.

2. Use proper parts: Use only exact replacement parts. (Also, we recommend replacing parts rather than repairing them.)

3. Use the proper tools: Use the proper tools and test equipment, and know how to use equipment may cause problems later-intermittent contact, for example.

4. Power Cord: Prior to repair, check the power cord and replace it if necessary.

5. Avoid using an extension cord, and avoid tapping into a power cord. This practice may result in malfunction or fire.

6. After completing repairs and reassembly, check the insulation resistance, Procedure: Prior to applying power, measure the resistance between the power cord and the ground terminal. The resistance must be greater than 30 megohms.

7. Make sure that the grounds are adequate.

8. Make sure that the installation conditions are satisfactory. Relocate the unit if necessary.

9. Keep children away from the unit while it is being repaired.

10. Be sure to clean the unit and its surrounding area.

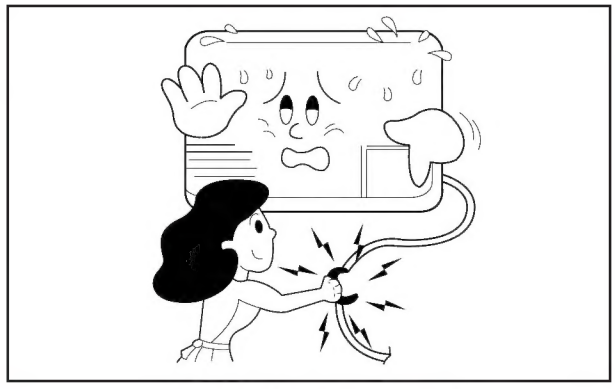


Fig. 1-1 Avoid Dangerous Contact

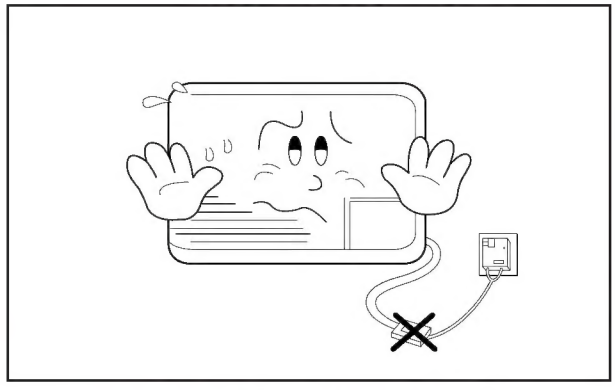


Fig. 1-2 No Tapping and No Extension Cords

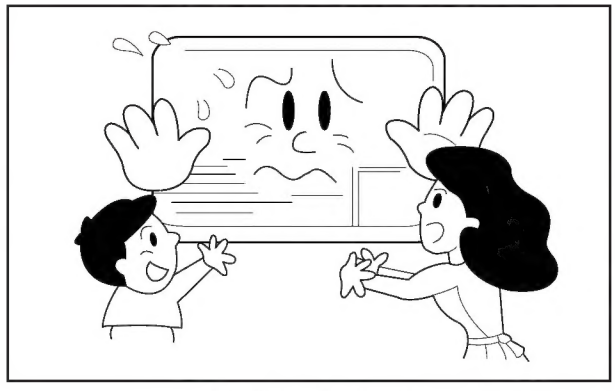


Fig. 1-3 No Kids Nearby!

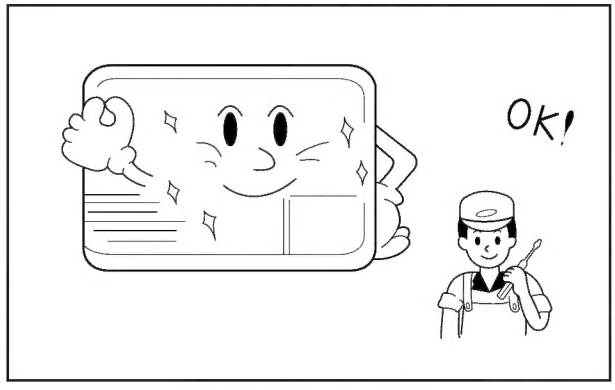


Fig. 1-4 Clean the Unit

2. Product Specifications

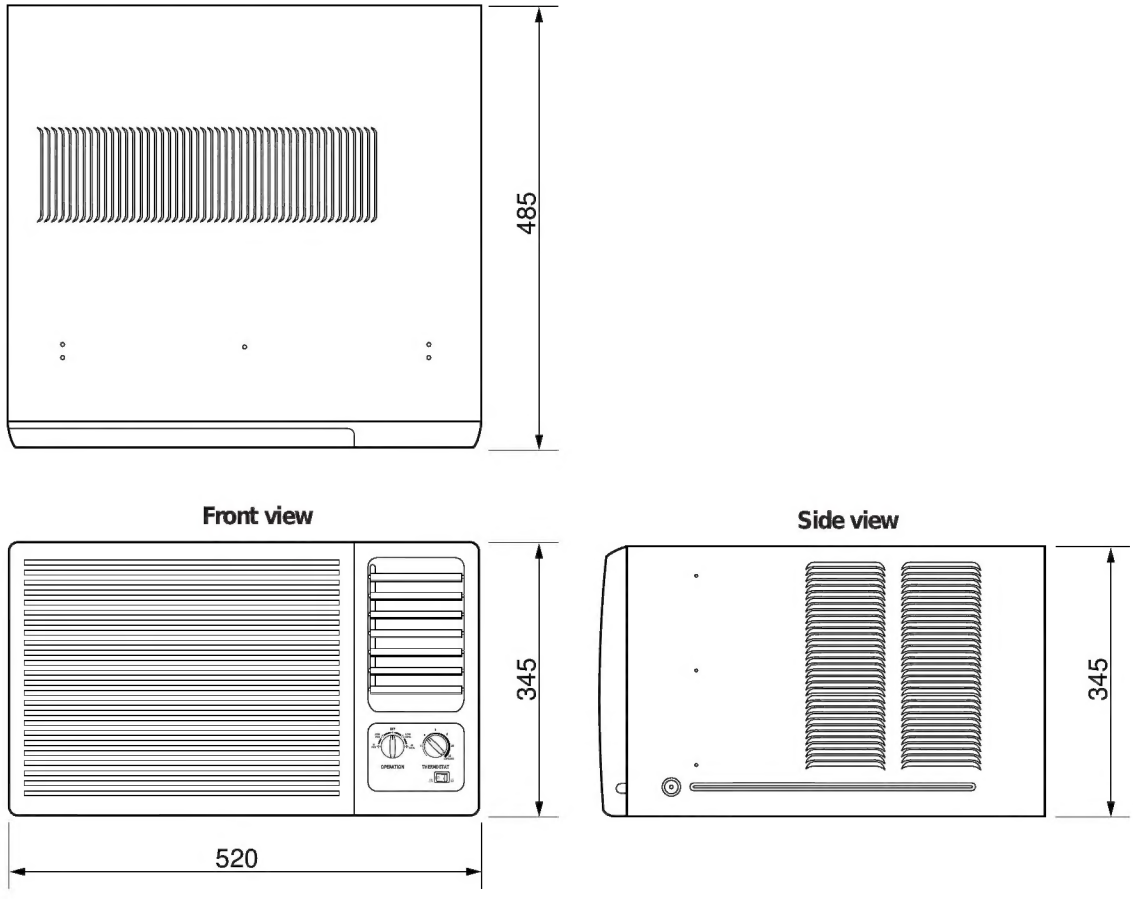
2-1 Table

Item	Unit of Measure	AW07A0SE	AW07A1SE	AW09A0SE	AW09A1SE	Remarks
Type	-	Window				
Dimensions: (Width X Height X Depth)	mm (inch)	520 X 345 X 485 (20.5 X 13.6 X 19.1)				
Packing Size (Width X Height X Depth)	mm (inch)	571 X 449 X 546 (22.5 X 17.7 X 21.5)				
Voltage:	Volt	220 - 240				
Phase	-	Single				
Frequency	Hz	50				
Operating Current	A	3.5		4.5		
Power Consumption	W	750		1,000		
Refrigerant Type	FREON	R-22				
Refrigerant Charge	g	410		420		
Cooling Capacity	KW	2.05		2.60		
EER	KW/Wh	2.05		2.6		
Net Weight	kg	28		29		
Condenser	Row	2 x 15				
Condenser Fan	Type	Propeller Fan				
Evaporator	Row	2 x 14				
Evaporator Fan	Type	Blower				
Fan Motor	W	IC - 9630SWJ 5B				
Compressor(Rotary)	Model	44A070JW1E1		44B092JW1E5		
Overload Protect	-	MST24AMN - 12008		KRA1256 - 12007		
Compressor Capacitor Fan Motor Capacitor	µF/VAC	25/370 Dual Type 2.5/370		20/370 Dual Type 3/370		
Fan Speed Control	-	Fan speed switch(High & Low)				
Thermo Control	-	Thermostat				
Air Swing	-	-	M2LJ 49ZR42 (5/6 RPM)	-	M2LJ 49ZR42 (5/6 RPM)	

2-2 Dimensions

2-2-1 Main Unit

Unit : mm



3. Installation and Operating Instructions

3-1 Installation

3-1-1 Selecting Area for Installation

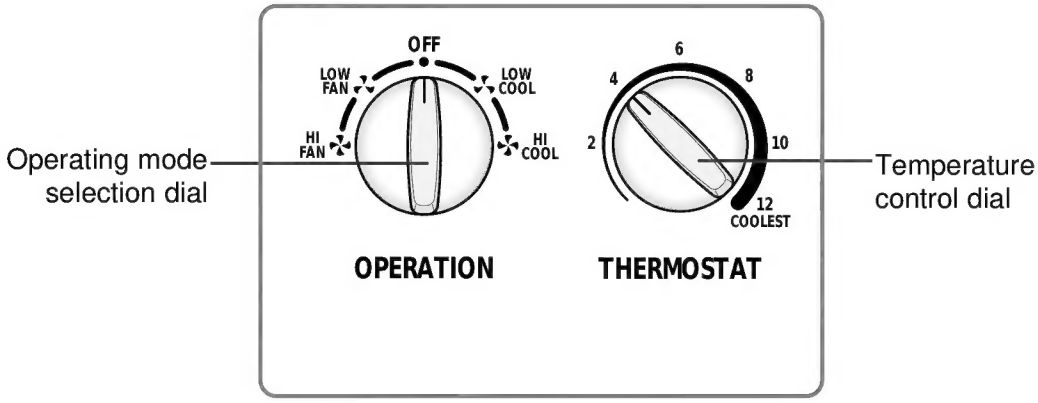
1. Make sure that you install the unit in an area providing good ventilation. The air conditioner must not be blocked by any obstacles affecting the airflow near the air inlet and the air outlet.
2. Make sure that you install the unit in an area that allows good air handling. The installation area must be able to endure vibration from the unit.
3. Make sure that you install the unit away from heat or vapor.
4. Make sure that you install the unit in an area which is cool and has adequate space.
5. Make sure that you install the unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (at least 1 meter clearance).
6. Make sure that you install the unit in an area which provides easy drainage for condensed water.
7. Make sure that you install the unit in area not exposed to the rain or direct sunlight. (Install a separate sunblind if exposed to direct sunlight).
8. Make sure that you install the unit in an area allowing good air movement. Do not install it in a space that would cause noise amplification of noise.
9. Fix the unit firmly if mounted in a high place.

Caution:

Do not use the air conditioner in the following environments : greasy areas (including areas near machines), or marine areas. Contact your local dealer for advice.

3-2 Controls and Components

<AW07A0SE/AW09A0SE>



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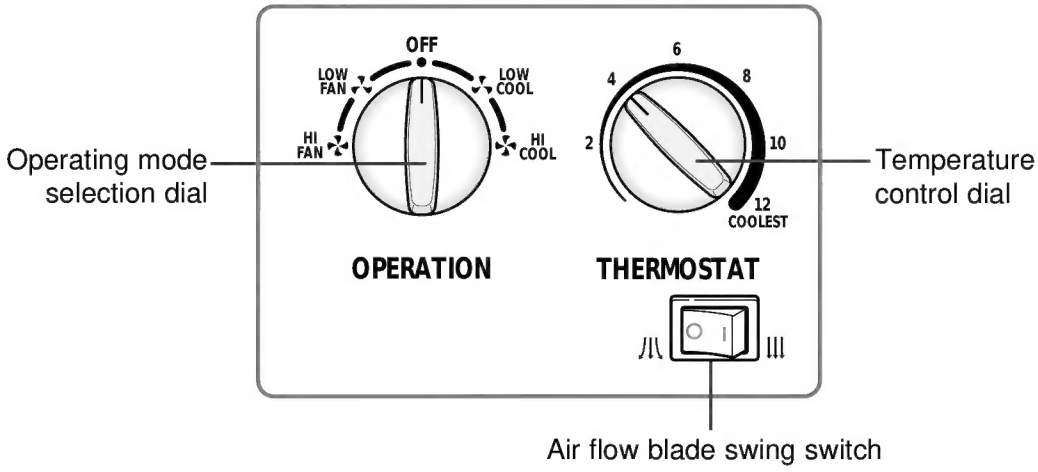


3-2-1 Thermostat

OFF :
When room temperature is lowered by the air conditioner, the gas within the thermostat will contract and cause a break in the electrical contact. The compressor will then stop. After the compressor stops, the room temperature will rise.

ON :
As the room temperature increases to a selected level, the gas within the thermostat expands causing electrical contact, which provides the source of electric power to the compressor. The room temperature will fall and the cycle will repeat.

Control Operation :
By turning the control knob clockwise (toward higher numbers), the temperature will be cooler. By turning the control knob counterclockwise (toward lower numbers), the temperature will be warmer.

Level 1 : Cool air will be supplied above 30~35°C
Cool air will cease below 28~32.5°C
Level 12 : Cool air will be supplied above 17.4~20.4°C
Cool air will cease below 14.4~17.4°C

3-2-2 Operation

The fan selector switch offers high and low fan cooling control levels to assure maximum comfort.
The two fan speeds allow you to economically circulate room air flow on days when intense cooling is not required. When combined with the thermostat(set to call for conditioned air), these controls cool, dehumidify, filter, and circulate room air, with the fan continuing to circulate air even when the compressor is turned off.

3-2-3 Ventilation Control

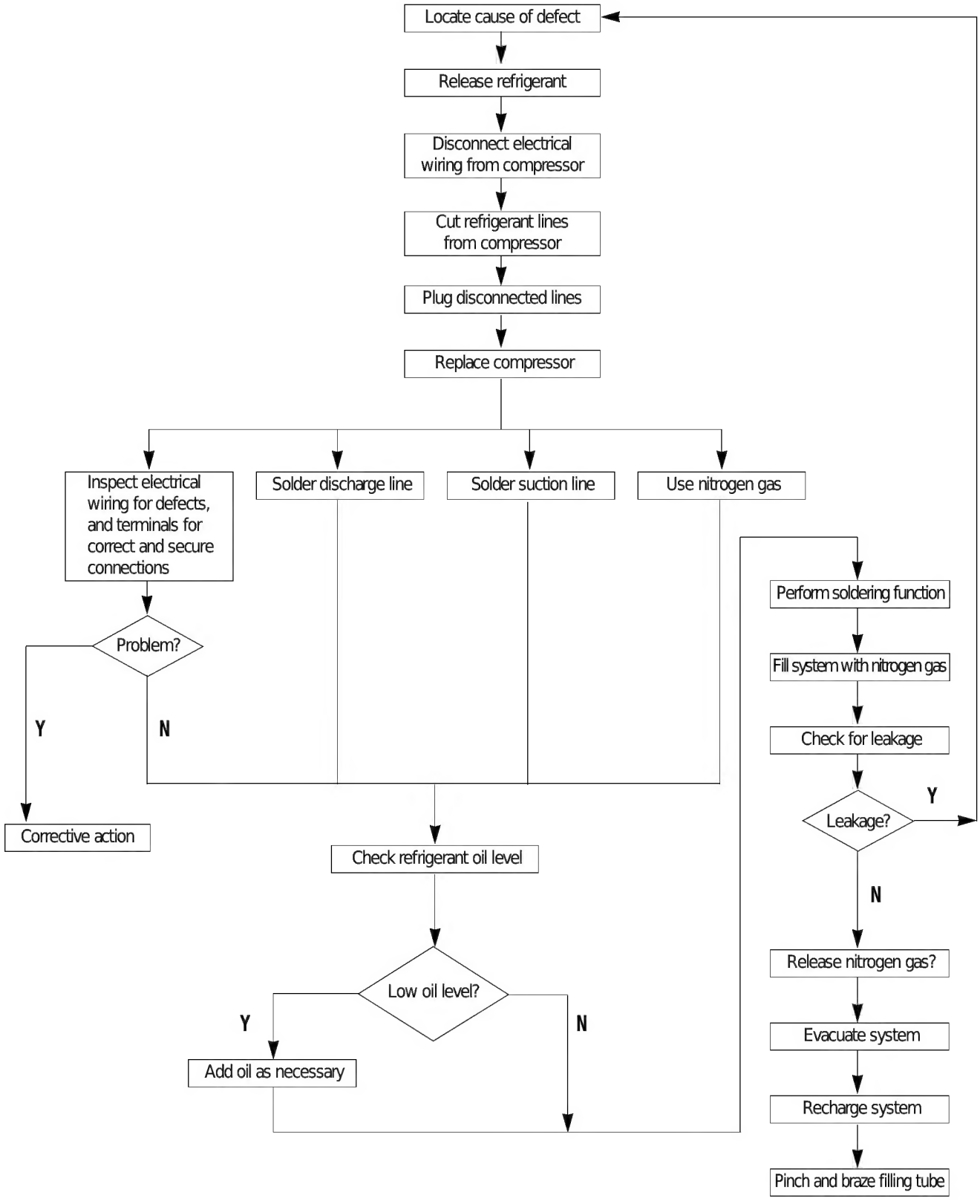
Use the ventilation switch to exhaust unfresh air.
Open position : The air inside the room circulates, while exhausted is sent outside.
Closed position : The air inside the room circulates without exhaust.

3-2-4 Air Swing Switch(AW07A1SE/AW09A1SE)

- ON (⩘) : Automatic oscillation distributes the air flow throughout the room (controls left and right wave fins)
- OFF(⫼) : Maintains a fixed direction of air flow, Set the Air Swing switch to OFF at the instant the wave fins come to the desired position.

4. Disassembly and Reassembly

4-1. Compressor Replacement Flow Chart



4-2 Checking the oil

Put approximately 10cc oil into a transparent container and test it.

4-2-1 Oil quality

Condition of Refrigerant Cycle	Oil Condition		Remarks
	Color	Odor	
Normal	Straw Yellow	No Odor	Return with the system
Over-heated	Brown Color	-	Change the oil
Motor Damage	Dark Brown	Pungent oil	Change the oil

4-2-2 Changing and adding refrigerant oil

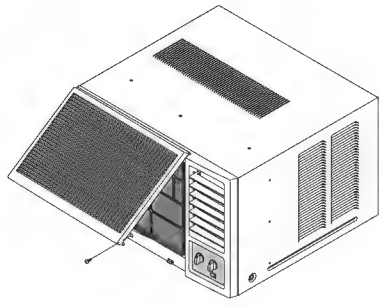
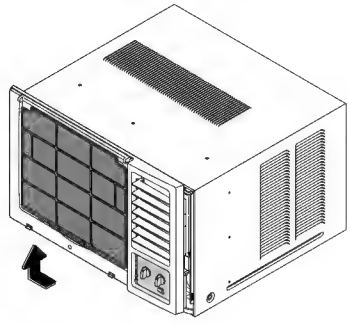
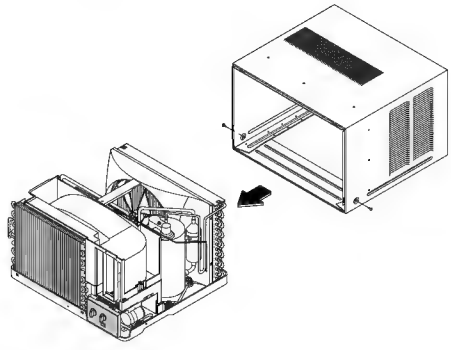
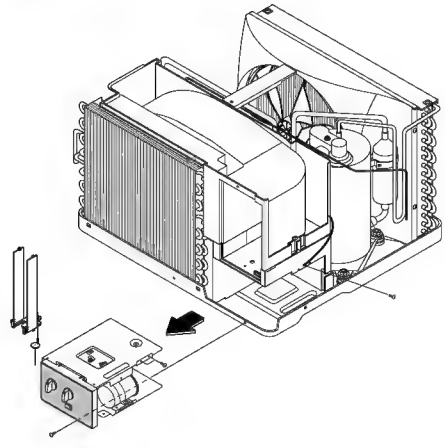
1. Change the compressor - DO NOT recharge the oil as the compressor itself is already charged.
2. Change the condenser .... add 50cc
3. Change the evaporator .... add 50cc
4. When the refrigerant is replaced .... add 30cc oil.
5. After vacuum is completed, the oil is filled through the high pressure side.
6. In the event of a refrigerant leak, generally it is not necessary to add oil. (unless the oil has leaked significantly).

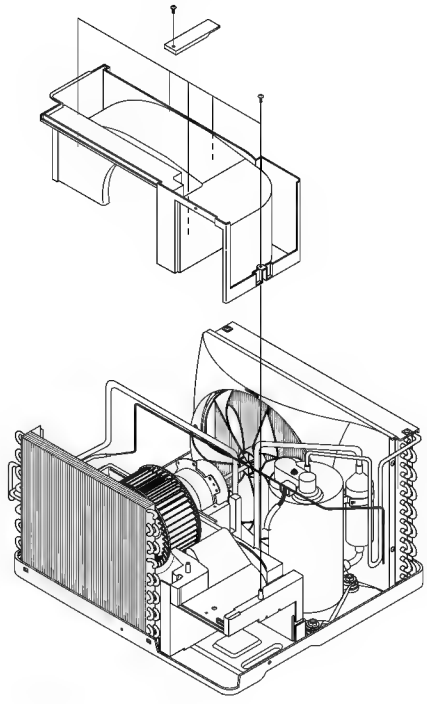
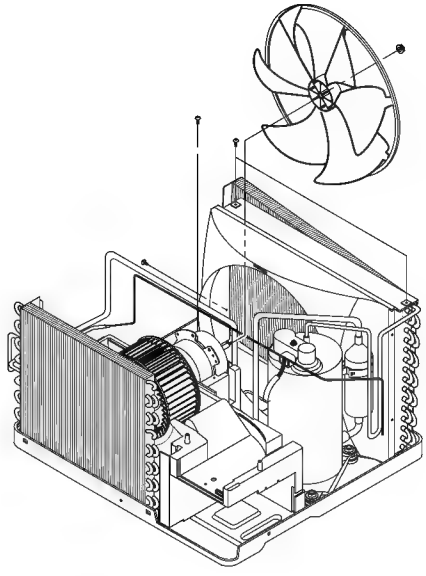
4-3 Refrigerant Oil Specifications

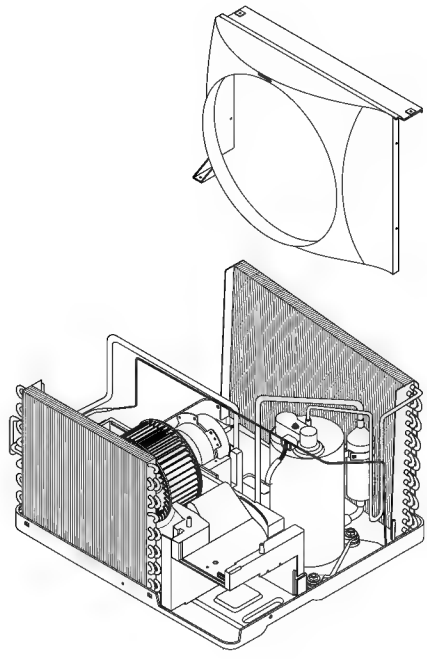
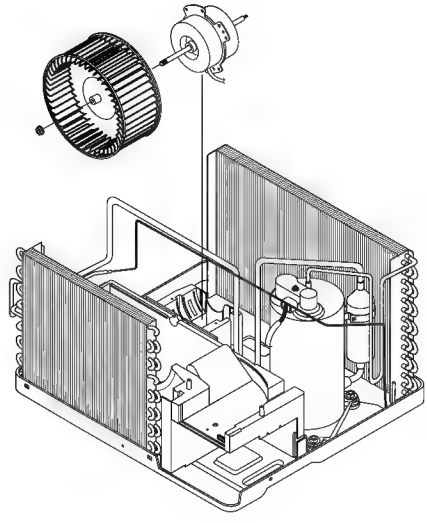
Model	Oil Charge	Oil specification
AW07A0SE AW07A1SE	280cc	SONTEX 200LT
AW09A0SE AW09A1SE	360cc	

4-3 Disassembly and Reassembly Procedure

Stop operating the air conditioner, and pull out the power cord before repair.

No.	Part name	Procedures	Remarks
①	Ass'y Grill	1. Pull the panel front and remove the screw on the grille	
		2. Push the grille left side and pull up	
②	Ass'y Cabinet	1. Remove the two screws both side cabinet. 2. Pull the front both side, and remove the unit from the cabinet.	
③	Ass'y Control	1. Remove the blade V and arm blade 2. Remove 2 screws, and earth wire screw. 3. Remove two lead wire assemblies. 4. Take out the control box forward.	

No.	Part name	Procedures	Remarks
④	Frame Up	1. Remove 6 screws on the Frame up and remove the Frame up and the reinf from case cond.	
⑤	Case Cond & Propeller Fan	1. Remove two screws on the bottom side, and 4 screws on the case cond. 2. Pull up the case cond and separate the cond case from the cond. 3. Remove the nut flange, and remove the propeller fan	

No.	Part name	Procedures	Remarks
⑥	Cond Casing	1. Remove the cond casing	
⑦	Blower & Motor	1. Move the motor & blower toward the evap, and lift up the motor & blower from the frame low.	

5. Troubleshooting

5-1 Special Precautions

5-1-1 Check the voltage of the of power source.

The input voltage shall be 220 - 240V~ / 50Hz
The air conditioner may not operate properly if the voltage is out of this range.

5-1-2 Check weak and fragile parts.

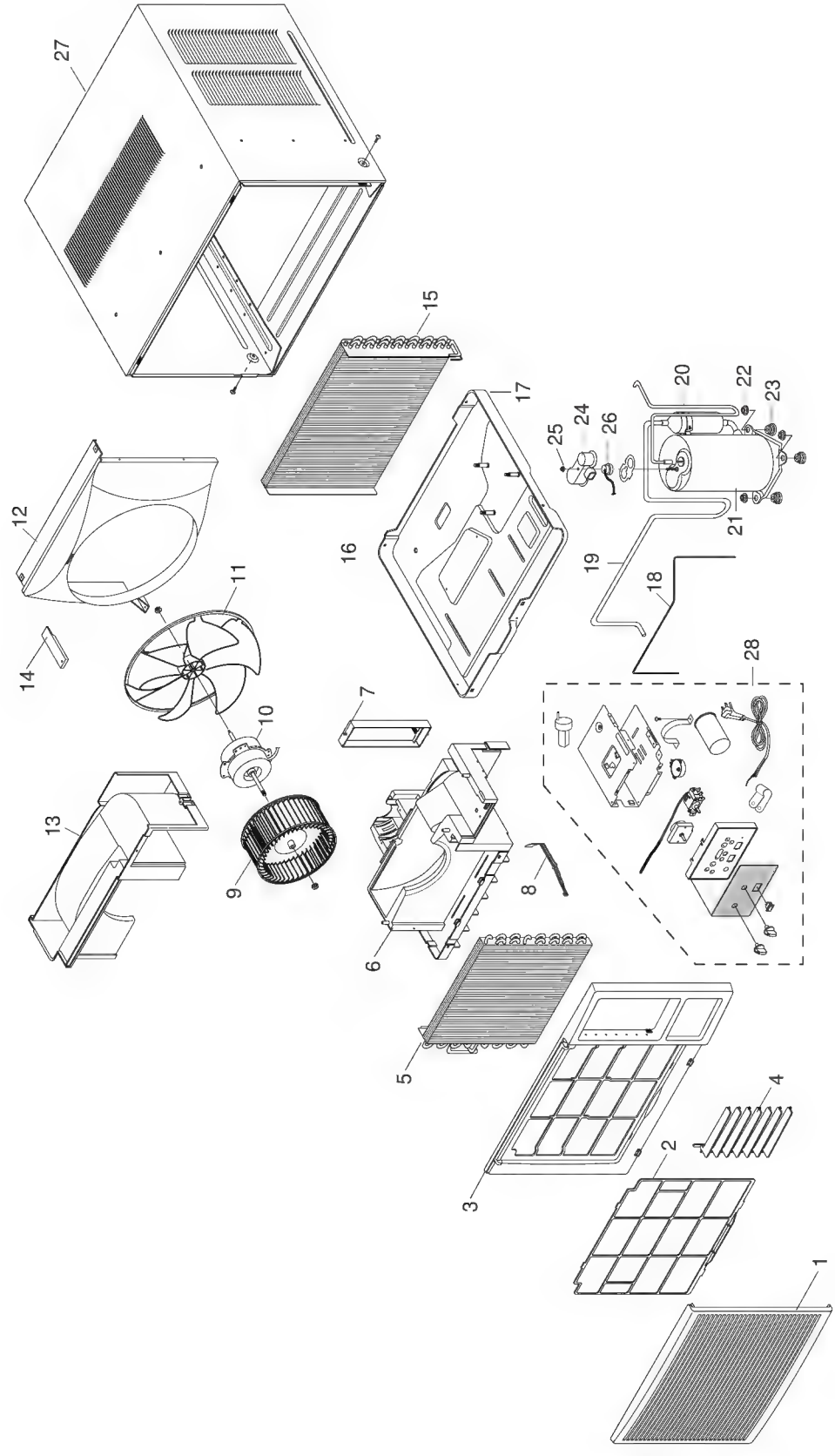
5-1-3 Check the connection of terminals.

5-1-4 When a malfunction occurs:

No	Malfunction	Check point	Causes
①	Compressor does not run.	1. check the thermostat position. 2. check the connection of the lead wire. 3. check the over load protector. 4. check the compressor.	1. Setting temp is lower than room temp. 2. Disconnection of the lead wire. 3. O.L.P is faulty 4. Compressor is faulty
②	Motor does not run.	1. check the connection of the lead wire & switch. 2. check the motor	1. disconnection of the lead wire 2. switch is faulty. 3. motor is faulty
③	Low cooling capacity	1. check the refrigerant leakage. 2. check the evaporator condition (freezing, blocked with dusts, etc.) ❊ Difference of temp. exists between the suction side and the discharge side at least 12℃ ❊ Standard condition Indoor : 27℃ outdoor : 35℃	1. Caused by the pipe crack 2. shortage of refrigerant 3. clean the evaporator & air filter.
④	Noise	1. check vibration of the pipe 2. check the propeller fan and blower (not loose or broken). 3. check bearing noise of the motor 4. check the compressor noise against	1. pipes are contact with the other parts. 2. the hex. nut is loose 3. the parts are broken 4. motor is faulty 5. compressor is faulty that of other compressors.

6. Exploded View and Parts List

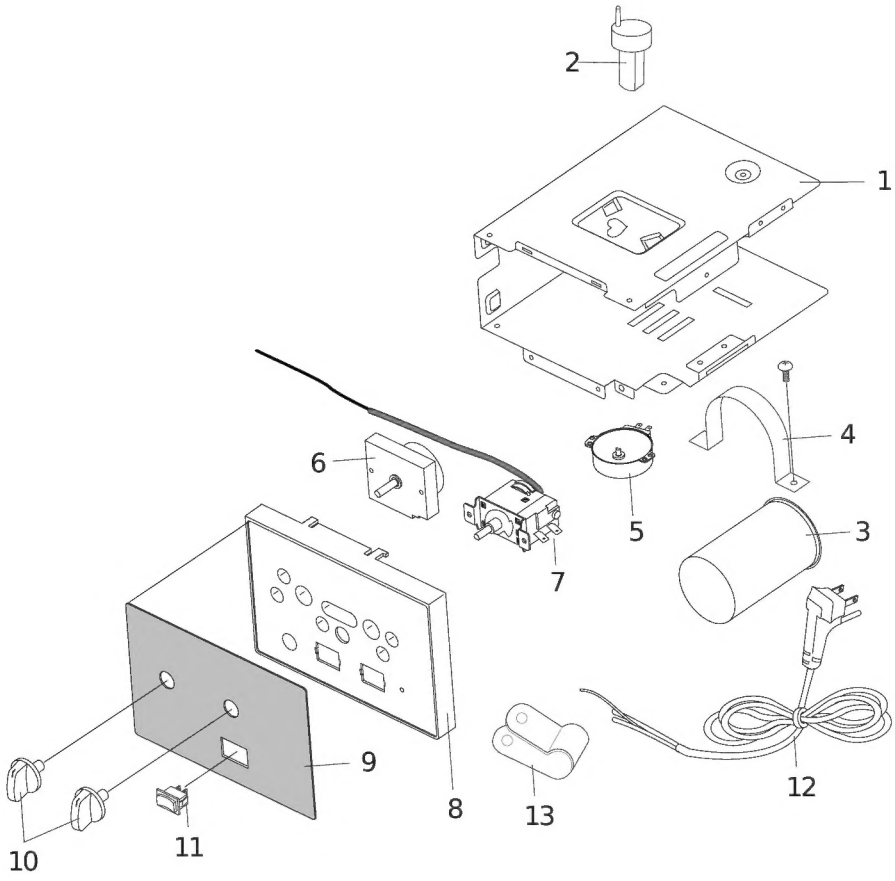
6-1 Main unit



■ Part List

No.	Code No.	Description	Specification	Q'TY				Remarks
				AW07A0SE	AW07A1SE	AW09A0SE	AW09A1SE	
1	DB64 - 10158B	INLET - GRILL	HIPS	1	1	1	1	
	DB64 - 00014A	INLET - GRILL		-				
2	DB63 - 30158A	GUARD AIR FILTER	HIPS	1	1	1	1	
3	DB64 - 70093A	PANEL FRONT	HIPS	1	1	1	1	
4	DB66 - 30191A	BLADE - H PP	PP	1	1	1	1	
5	DB75 - 00001A	ASS'Y EVAP	2 X 14	1	1	-	-	
	DB96 - 00045A	ASS'Y EVAP	2 X 14	-	-	1	1	
6	DB90 - 00002B	ASS'Y FRAME LOW	ASS'Y	1	1	1	1	
7	DB66 - 30211A	BLADE V	HIPS	-	1	-	1	
	DB66 - 30212A	BLADE V, M	HIPS	1	-	1	-	
8	DB66 - 70030A	DAMPER	PP	1	1	1	1	
9	DB67 - 50078A	BLOWER	ABS	1	1	1	1	
10	DB31 - 00004C	MOTOR	IC9430SWJ5B	1	1	1	1	▲
11	DB67 - 50077A	FAN PROPELLER	ABS	1	1	1	1	
12	DB90 - 00013B	ASS'Y CASE COND	PP	1	1	1	1	
13	DB90 - 00014C	ASS'Y FRAME UP	ASS'Y	1	1	1	1	
14	DB61 - 00027B	FRAME REINF	PP	1	1	1	1	
15	DB75 - 00002A	ASS'Y COND	2 x 15	1	1	1	1	
16	DB63 - 10388A	CAP DRAIN	CR	1	1	1	1	
17	DB90 - 00004A	ASS'Y BASE	ASS'Y	1	1	1	1	
18	DB96 - 00046A	TUBE CAPILLARY ASS'Y	ID 1.42 L1100	-	-	1	1	▲
	DB96 - 00009A	TUBE CAPILLARY ASS'Y	ID 1.3 L900	1	1	-	-	▲
19	DB96 - 10736A	ASS'Y TUBE-SUCTION	ASS'Y	-	-	1	1	▲
	DB96 - 00008A	ASS'Y TUBE-SUCTION	ASS'Y	1	1	-	-	▲
20	DB62 - 31953A	TUBE-DISCHARGE	ASS'Y	-	-	1	1	▲
	DB62 - 00009A	TUBE-DISCHARGE	ASS'Y	1	1	-	-	▲
21	DB95 - 10065K	ASS'Y COMP	44A070JW1E1	1	1	-	-	▲
	DB95 - 10065B	ASS'Y COMP	44B092JW1E5	-	-	1	1	▲
22	DB60 - 30028A	NUT WASHER	M8, ZPC	3	3	3	3	
23	DB73 - 10027A	GROMMET-ISOLATOR	EPDM	3	3	3	3	
24	DB63 - 10504A	COVER TERMINAL	NORYL, BLK	1	1	1	1	
25	DB60 - 00001A	NUT-FLANGE	M5, SM20C	1	1	1	1	
26	DB47 - 20001Y	OLP-POLYESTER	MST24AMN-12008	1	1	-	-	▲
	DB47 - 20002U	OLP-POLYESTER	MRA12056-12007	-	-	-	-	▲
27	DB90 - 00003A	ASS'Y CABINET	ASS'Y	1	1	1	1	
28	DB93 - 00139A	ASS'Y CONTROL M	AW07A0SE	1	-	-	-	
	-	ASS'Y CONTROL M	AW07A1SE	-	1	-	-	
	-	ASS'Y CONTROL M	AW09A0SE	-	-	1	-	
	-	ASS'Y CONTROL M	AW09A1SE	-	-	-	1	

6-2 Ass'y Control

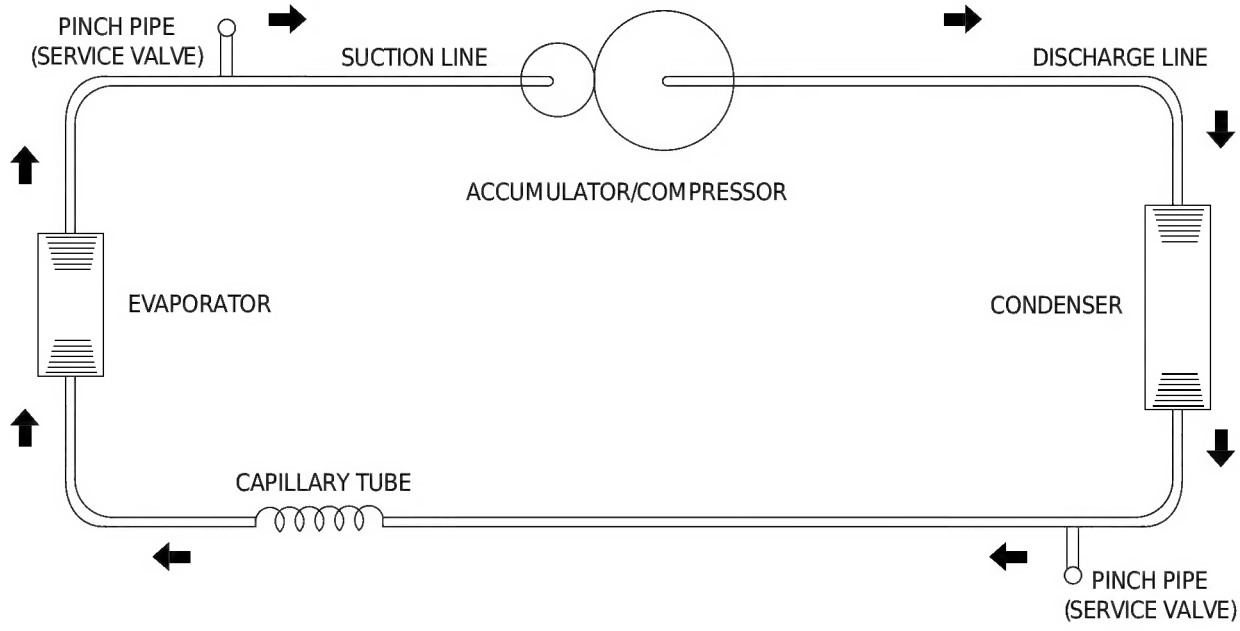


■ Part List

No.	Code No.	Description	Specification	Q'TY				Remarks
				AW07A0SE	AW07A1SE	AW09A0SE	AW09A1SE	
0	DB93 - 00139A	ASS'Y CONTROL M	AW07A0SE	1	-	-	-	▲
	-	ASS'Y CONTROL M	AW07A1SE	-	1	-	-	▲
	DB93 - 00139D	ASS'Y CONTROL M	AW09A0SE	-	-	1	-	▲
	-	ASS'Y CONTROL M	AW09A1SE	-	-	-	1	▲
1	DB61 - 10202A	CASE CONTROL M	SECC - M	1	1	1	1	
2	DB66 - 70031A	ARM - BLADE	ABS	-	1	-	1	
3	2501 - 001182	C - OIL	2.5/25μF, 370VAC	1	1	-	-	▲
	2501 - 001168	C - OIL	3/30μF, 370VAC	-	-	1	1	▲
4	DB65 - 10008B	CLIP - CAPACITOR	SECC - P, TO.8	1	1	1	1	
5	DB65 - 20065F	SWING MOTOR	M2LJ 49ZU32	-	1	-	1	
6	DB34 - 90027C	SELECTOR S/W	M250, 12HR	1	1	1	1	
7	DB47 - 20074A	THERMOSTAT	SRB - 315 - 4 - 8 - D	1	1	1	1	
8	DB64 - 70110A	PANEL - CONTROL M	HIPS	1	1	1	1	
9	DB64 - 40185A	INLAY - CONTROL(C)	TO.5 GRY	1	-	1	-	
	DB64 - 40185C	INLAY - CONTROL(C)	TO.5 GRY	-	1	-	1	
10	DB64 - 50138B	KNOB - TIMER ASS'Y	ABS	2	2	2	2	
11	DB34 - 90022A	SEESAW - SWITCH	6A, 250V, 2Pin	-	1	-	1	
12	DB39 - 10062U	POWER CORD	UCP-2, 250V	1	1	1	1	
13	DB65 - 10083A	CLAMP CABLE	NY66 DA - 5N	1	1	1	1	

7. Block Diagram

7-1 Refrigerating Cycle Block Diagram



8. Wiring Diagram

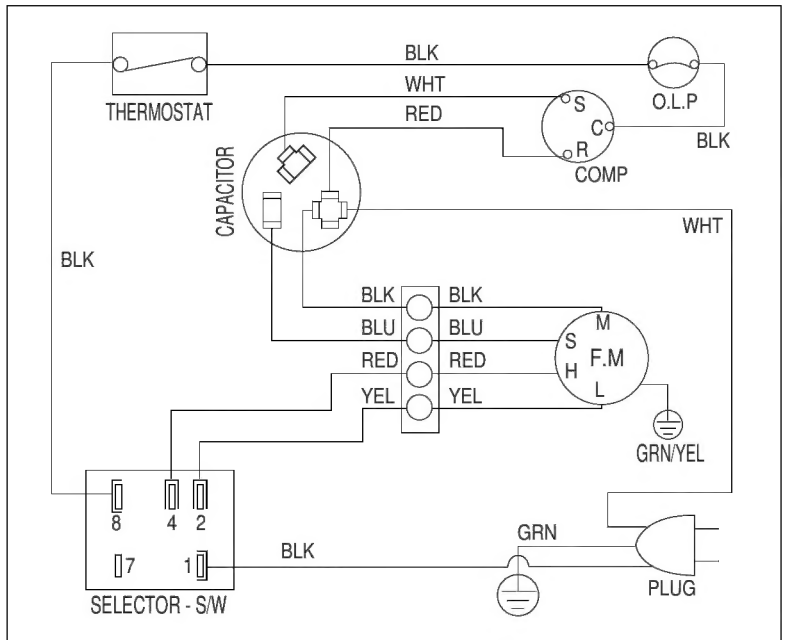


DIAGRAM-ELECTRIC	AW07A0SE	CAPACITOR : 2.5/25 uF x 370VAC
	AW09A0SE	CAPACITOR : 3/30 uF x 370VAC

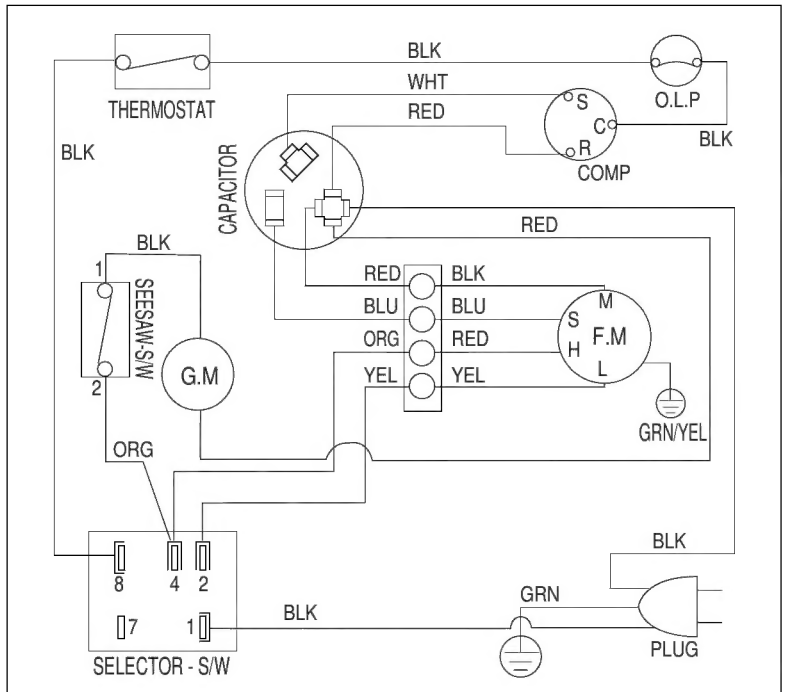


DIAGRAM-ELECTRIC	AW07A1SE	CAPACITOR : 2.5/25 uF x370VAC
	AW09A1SE	CAPACITOR : 3/30uF x370VAC